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PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/565,276 Group Art Unit: 2121
Filing Date: January 20, 2006 Examiner: Tejal Gami
Applicant: Patrick GEHLEN et al.
Title: COUPLING DEVICE FOR THREE BUS SYSTEMS
Atty. Dkt: 32860-000989/US

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REPLY BRIEF

Sir:

In response to the Examiner's Answer dated April 15, 2009, Appellants submit the following.

In response to Appellants' arguments set forth on pages 10-15 of Appellants' Brief on Appeal, the Examiner's Answer states at page 7:

Firstly, as claimed, the prior art anticipates a device "to allow data to interchanged between the three data buses." The controller discussed in Krivoshein above clearly "allows" data to be interchanged and is further supported by prior art Figure 1 showing controller 12 coupled to numerous field devices within different data buses, including a Fieldbus device network 30, a HART device network 32, a Profibus device network 34 and an AS-Interface device network 36 (see Fig. 1; and col. 7, lines 42-47).

Appellants disagree.

As Appellants have previously argued, Krivoshein (U.S. Patent No. 6,449,715) discloses multiple different buses 30, 32, 34 and 36, but fails to

disclose that these buses are connected together in the manner required by claim 1. Namely, Krivoshein fails to disclose or fairly suggest that the different buses 30, 32, 34 and 36 are connected to a data processing device "allow data to be *interchanged between the three data buses.*" At most, Krivoshein discloses a configuration system including controller 12 that *separately controls* different devices on different device networks. Krivoshein does not disclose, either explicitly or implicitly, that the controller 12 enables or allows exchanging or interchanging data *between devices* on different device networks.

In more detail, at FIGS. 1 and 2 Krivoshein discloses a configuration system including a controller 12. The controller 12 *separately* controls different types of field devices using different communication protocols based on a common configuration database 72. Krivoshein at 5:45-48. The configuration database 72 stores configuration for all the devices within the process control system. *Id.* at 60-63.

At best, Krivoshein only discloses that the controller 12 separately controls the devices in each different device network. Krivoshein does not disclose or fairly suggest that its configuration enables or allows data to be exchanged or interchanged *between the different data buses or between devices on those different data buses.*

Further, at page 8 the Examiner's Answer states:

Secondly, appellant's arguments are narrower in scope than presented as claim limitations. Appellant argues data to be "exchanged," but claims data to be "interchanged." A common meaning of interchange data is data that is common or shared. The prior art clearly discloses data to be interchanged (i.e., common, shared) between buses.

Appellants disagree.

First, Appellants note that the Examiner provides no support for his/her common definition of "interchange data." And, Appellants are unaware of any such "common" definition. Regardless, however, Appellants respectfully disagree with the Examiner's alleged "common" definition of "interchange data."

According to Dictionary.com, at least one definition of "interchange" is "to give and receive ... reciprocally; exchange." See, e.g., <http://dictionary.reference.com/browse/interchange> (last visited June 13, 2009). Moreover, the context of the present application gives rise to the conclusion that "interchange" as used in the pending claims is to give and receive reciprocally, rather than "common or shared" as suggested by the Examiner.¹

Surely, the Board as well as one of ordinary skill in the art will appreciate that the context of the present application gives rise to the conclusion that "interchange" as used in the pending claims is to give and receive reciprocally, rather than "common or shared" as suggested by the Examiner.

Further, even assuming *arguendo* that the Examiner's interpretation of "interchange data" is correct (which Appellants do not admit), Krivoshein also fails to disclose or fairly suggest data that is common or shared between different buses. At most, Krivoshein only discloses that the controller 12

¹ Appellants direct the Board's attention to Appellants' Brief and the Specification for a detailed discussion of the context of example embodiments. For the sake of brevity, Appellants have not repeated that discussion herein.

separately controls the devices on each different device network. Krivoshein does not disclose, either explicitly or implicitly, that the controller 12 allows data to be common or shared between different data buses.

Also at page 8, the Examiner's Answer states:

In addition, the controller is one example of a way to allow interchange of data in Krivoshein's disclosed system, as explained in the previous office action. Additional examples of a device to allow data to be interchanged between three data buses in Krivoshein's system including I/O Configurator 76 and Configuration Database 72 as shown in Krivoshein's prior art Figure 2 (it is noted that this configuration is the same as shown in appellant's Figure 6 Configuration 15 in the instant application) and col. 16, lines 1-10 of Krivoshein.

Appellants disagree with the Examiner's statement because Krivoshein does not disclose or suggest that the I/O configurator 76 or the configuration database 72 allow data to be interchanged between at least three different data buses.

The common configuration database 72 allows the controller 12 to *separately control different types of field devices* using different communication protocols. Krivoshein does not disclose, either explicitly or implicitly, that the configuration database 72 allows data to be interchanged between the different data buses.

The I/O configurator 76 configures different master I/O devices such as the devices 44, 48, 55, 60 in FIG. 1 and documentation routine 78. Krivoshein at 13:25-29. The I/O configurator 76 is used to configure the I/O device associated with a particular device network using information stored in the configuration database 72. *Id.* at 16:1-6. Contrary to the allegation at page 8

of the Examiner's Answer, however, Krivoshein does *not* disclose or fairly suggest that the I/O configurator 76 allows data to be interchanged between the different data buses.

The Examiner's Answer directs Appellants' attention to lines 1-11 in column 16 of Krivoshein to support this assertion regarding the I/O configurator 76. But, at most this portion of Krivoshein merely discloses that the I/O configurator 76 configures the I/O devices using the information stored in the configuration database 72. Lines 1-11 in column 16 of Krivoshein do not disclose that the I/O configurator 76 allows data to be *interchanged between* the different data buses as required to meet the limitations of claim 1.

Finally, at page 8 the Examiner's Answer asserts in-part:

And finally, appellants' independent claim is an apparatus claim, and patentability of apparatus claims depends on the structure, not on the use or purpose of that structure...Apparatus claims must be structurally distinguishable over the prior art; see MPEP 2114.

The Examiner goes on to cite *In re Schreiber* to support the assertion that Appellants' functional distinction is not sufficient to render the claim patentable over Krivoshein. Ex. Ans. at 8. Appellants disagree.

Appellants note that this is the first instance in which the Examiner has asserted that the argued limitations are intended use. It does not appear that this issue has been raised previously. Regardless, however, the argued limitations in claim 1 are not intended use or purpose of the structure of claim 1 as suggested by the Examiner. Rather, the argued features of claim 1 are

functional limitations, which define the claimed apparatus by what it does rather than by what it is. *See, e.g.*, MPEP § 2173.05(g).

Appellants understand that the claimed invention must be structurally distinguishable over the prior art, but assert that indeed it is. Specifically, claim 1 is directed to a coupling apparatus for data buses, which requires a "data processing device" connected to three connecting devices for three different data buses *to allow data to be interchanged between the different data buses*. As argued in Appellants' Brief, as well as above, Krivoshein fails to disclose a coupling apparatus including such a data processing device. Therefore, the coupling apparatus claimed in claim 1 does indeed *structurally* distinguish over Krivoshein in that Krivoshein fails to disclose a coupling apparatus including the data processing device of claim 1.

For at least the foregoing reasons and the reasons set forth in Appellants' Brief on Appeal, Krivoshein fails to disclose at least, "*a data processing device*" connected to at least three connecting devices *to allow data to be interchanged between the different data buses*. Because Krivoshein fails to disclose or suggest this feature, the reference fails to anticipate claim 1 and the rejection of this claim under 35 U.S.C. § 102 should be overturned. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *see also*, MPEP § 2131. Krivoshein fails to anticipate claims 2-14 at least by virtue of their dependency from claim 1. Thus, the rejection of these claims should be overturned as well.

Moving forward, at pages 9-10, with respect to claim 3, the Examiner's

Answer states in-part:

...claim 3 as recited does not require the claimed semantics to be "safety-relevant" or "security-relevant", as argued in the Appeal Brief. Krivoshein clearly teaches semantics of the data, e.g., the type of data to be transferred. See for examples, col. 10, lines 1-16, col. 14, lines 1-4 and col. 21, lines 24-27.

Previously, the Examiner had been relying upon the protocols described in Krivoshein to disclose the "semantics" in claim 3. Now, the Examiner's Answer appears to shift the focus from the protocols described in Krivoshein to the above cited portions of the reference. Regardless, however, Appellants continue to disagree with the rejection of claim 3 because Krivoshein fails to disclose a coupling apparatus configurable in such a way that "data transfer between at least two of the data buses is controllable as a function of the semantics of the data to be transmitted."

Referring to column 10, lines 1-6, Krivoshein states:

...the control application which accesses this data knows the semantics and data type. This model is essentially the PLC register model where it is left to the user or control application to ensure that the operation being performed on a register is consistent with the type of data contained within the register.

While this portion of Krivoshein does use the phrase "semantics and data type," it does *not* disclose or suggest that data transfer between at least two different data buses is *controllable* as a function of the semantics of the data to be transmitted as is required to meet the limitations of claim 3. Indeed, the mere recitation of the term "semantics" is not enough to meet the limitations of claim 3.

At column 14, lines 1-4, Krivoshein discloses that templates 80-86 may store different information to be used in acquiring different types of data required for, or associated with, that protocol. Again, however, this portion of Krivoshein also fails to disclose or fairly suggest that data transfer between at least two different data buses is *controllable* as a function of the semantics of the data to be transmitted as required to meet the limitations of claim 3.

Further, at column 21, lines 24-27, Krivoshein states:

It will be understood however, that this same information or other information may be obtained by the configuration routine 70 in other formats, other data types, etc. as well as from other sources, if so desired.

This portion of Krivoshein cannot be said disclose or fairly suggest a coupling apparatus configurable in such a way that the data transfer between at least two different buses is as controllable as the function of the semantics of the data to be transmitted as is required to meet the limitations of claim 3. Indeed, it appears the cited portion of Krivoshein is boiler-plate language, rather than substantive, meaningful disclosure. Regardless, however, this portion of Krivoshein does not mention or suggest controlling data transfer between different buses as a function of semantics of the data to be transmitted. Indeed, it does not appear that this portion of Krivoshein even discusses controlling data transfer between different data buses, let alone doing so as a function of semantics of data as is required to meet the limitations of claim 3

For at least the foregoing reasons and the reasons set forth in Appellants' Brief on Appeal, Appellants respectfully submit that Krivoshein fails to disclose,

teach or suggest all features of claim 3. Because Krivoshein fails to disclose all features of this claim, Krivoshein fails to anticipate claim 3. *Verdegaal Bros.*, 814 F.2d at 631, 2 USPQ2d at 1053. Krivoshein fails to anticipate claim 12 at least by virtue of its dependency from claim 3.

CONCLUSION

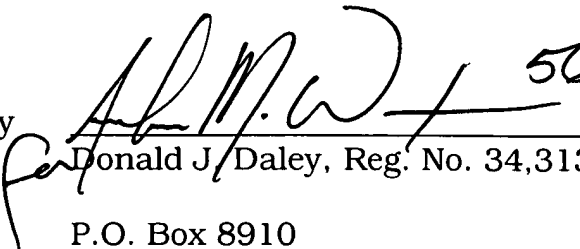
Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-14 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Donald J. Daley at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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